

Slavomír Hanzely

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| EDUCATION | King Abdullah University of Science and Technology , Saudi Arabia 2023 Applied Mathematics and Computational Sciences, Ph.D. (expected) Topic: Optimization for Machine Learning, group of Peter Richtárik |
| | Applied Mathematics and Computational Sciences, MSc. 2020 Relevant courses: Federated Learning, Big Data Optimization, Advanced Probability |
| | Comenius University , Slovakia, Computer Science, BSc. 2019 Superfluous amount of courses: <ul style="list-style-type: none">– 1st year: 95 credits (recommended amount is 60), including master's courses– Until graduation passed 7 master courses and unofficially passed (due to exceeding the maximal number of credits) 8 extra courses– Passed finals year in advance and with the best grades |
| RESEARCH | <ul style="list-style-type: none">• Convergence of First-Order Algorithms for Meta-Learning, arxiv 2023 Mishchenko, Hanzely, Richtárik,• A Damped Newton Method Achieves Global $\mathcal{O}(1/k^2)$ Convergence Rate, NeurIPS 2022 Hanzely, Kamzolov, Pasechnyuk, Gasnikov, Richtárik, Takáč• Distributed Newton-Type Methods with Communication Compression, arxiv 2022 Islamov, Qian, Hanzely, Safaryan, Richtárik• ZeroSARAH: Nonconvex Optimization with Zero Full Gradient Computation arxiv 2021 Li, Hanzely and Richtárik• Lower Bounds & Optimal Algorithms for Personalized Federated Learning, NeurIPS 20 F. Hanzely, S. Hanzely, Horváth and Richtárik• Adaptive Learning of the Optimal Mini-Batch Size of SGD, OPT-ML, NeurIPS 2020 Alfarra, Hanzely, Albasyoni, Ghanem and Richtárik |
| AWARDS | King Abdullah University of Science and Technology <ul style="list-style-type: none">• Dean's Award (3 consecutive years)• Ph.D. scholarship of USD 75,000/year• MSc. scholarship of USD 70,000/year Vojtech Jarník International Mathematical Competition 2017: 8-10th place (39 universities participated) Mathematical Olympiad 2016: 3rd place , Slovak national round International Mathematical Olympiad participation 2015: bronze medal , Middle European Mathematical Olympiad |
| WORK EXPERIENCE | Flatiron Institute, Simons Foundation June 2022 – July 2022 Research associate (group of Robert Gower): My task was to investigate ML loss reformulations and design fast variance reduced algorithms. Mohamed bin Zayed University of AI Feb 2022 – Apr 2022 Research assistant (group of Martin Takáč): Developing fast second-order optimization algorithms that are both practical and provably globally-convergent. |

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| | Wincent (crypto trading company) Jun 2020 – Aug 2020 Research intern / software engineer: My goal was to analyze, model and design practical algorithms to optimize resource allocation of the company and implement the developed methods under various constraints. |
| | Mathematical Olympiad 2017 – 2019 <ul style="list-style-type: none"> • marking problems at the national round (3 times) • organizing national selection camp for the International Mathematical Olympiad <ul style="list-style-type: none"> – creating the problem sets for a day and marking the solutions (3 times) – restructuring format of the camp and creating all problem sets (team of 4 people) |
| EXTRA-CURRICULAR ACTIVITIES | Trojsten (nonprofit organization) 2016 – 2019 <ul style="list-style-type: none"> • preparing competitions and camps (in Math, CS) for talented high school students <ul style="list-style-type: none"> – co-organized 14 competitions (3 as a head organizer) – co-organized 20 camps (4 as a head organizer) – problem selection: 20 problem sets, ~200 hours of work – marking solutions: ~600 solutions, ~150 hours of work • lecturing: delivering 38 lectures (including a half-day lecture) |
| TECHNICAL SKILLS | Research <ul style="list-style-type: none"> • topics: Federated Learning, Higher-Order Algorithms, Stochastic Optimization • reviewing: ICML (conference), NeurIPS (conference), TLMR (journal) • qualities: patience, persistence Programming <ul style="list-style-type: none"> • Python, PyTorch, Julia, C/C++, Bash • flexibility: experience with Matlab, R, Mathematica, SQL, Java, Javascript, Haskell Cross-cultural communication <ul style="list-style-type: none"> • co-organized large ultimate frisbee tournament (largest tournament in MENA region & first mixed tournament in Saudi Arabia) • studying and working in various international communities • organizing a research group seminar • organizing a research session at IFORS 2023 conference • languages: English, Slovak, French (basics), Russian (passive), Spanish (passive) |
| HOBBIES | Sport <ul style="list-style-type: none"> • ultimate frisbee - competing on international tournaments <ul style="list-style-type: none"> – Slovak national team: EU Youth Championship 2017, EU Youth Cup 2017 – KAUST university team: MENA 19, MENA 21, MENA 22, Egyptian Open 22 • individual sports: running, cycling, swimming, rock climbing • in the past: ice-hockey, floorball, karate Outdoor puzzle races <ul style="list-style-type: none"> • participated in 26 races, including 3 extreme ones (overnight, in winter) |